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In 1938, Yugoslavia produced approximately 6×10^6 tons of coal, or 0.4 percent of the coal produced in the world. It was estimated in 1939 that deposits in Yugoslavia amounted to 48×10^8 tons or 1/1,400 of world deposits. Large deposits of lignite and brown coal have been discovered since the liberation. With the acquisition of the liberated districts, Yugoslavia acquired the Rasa and Ilirska Bistrica mines. The coal deposits in Slovenia are 1/18 of the estimated deposits in Yugoslavia.

The population of Yugoslavia is 1/137 or 0.75 percent of the total world population (2.4 billion). World deposits amount to 2,900 tons of coal per capita; deposits in Yugoslavia amount to only 300 tons per capita. This figure is much lower for Slovenia. If lignite is included, however, the figure is 900 tons per capita.

Much of the heat potential of coal used in furnaces, stoves, and ranges is wasted. Locomotives utilize only 7 percent of the total caloric potential of coal; steam boilers, 65 percent; gas generators, 85 percent; and ranges and stoves, 12 percent. These losses cannot be remedied very much, as steam boilers, locomotives, ranges, and stoves would have to be redesigned to raise their efficiency factor.

Coal deposits are dwindling daily. Coal has become a raw material whose importance as a fuel is diminishing. Therefore, serious thought must be given to its use. It is high time that Yugoslavia used coal as fuel only when it is impossible to use other fuel. Poorer grades of coal should be used for fuel, and new heating installations should be constructed to use poorer grades.

Much of the caloric value of coal burned in furnaces and other heating installations is lost on the surface of the boilers or steam pipes. Consequently, all such surfaces not serving for heating should be carefully insulated. Experience has shown that 1,200 calories per kilogram per hour are lost on one square meter of uninsulated surface where the temperature is 100 degrees centigrade higher than the surrounding air. This loss increases as the temperature increases. If the steam conductor is well insulated, the loss decreases to 350 calories per kilogram per hour per square meter, by using insulating flanges and valves the loss is further reduced to 220 calories per kilogram per hour per square meter.

Up to now Yugoslavia has planned the use of coal in accordance with so-called production and steam norms. Since every planner wants to be dependable and fears inferior quality and irregular delivery, he requisitions larger quantities of coal from year to year even though production remains stationary. As a result, mines produce coal in excess of current needs. It is stored in unsuitable warehouses, or even in the open, where it deteriorates in caloric value and often even in appearance.

A second result is that too much coal is fed into the grate so that it falls through unburned into the slag. Planning should take into account the maximum capacity of the grate of each boiler, taking into account both the surface area of the grate and the heating surface of the boiler. The equation $B = k_2 H$ should serve to determine the amount of coal to be used. B is the amount of coal in kilograms with regard to caloric value and quality which is stipulated for a particular grate; k_2 is the amount of coal in kilograms which burns in one hour on one square meter, approximately 8.5 to 11 kilograms (an average of 9.5); and H is the heating surface of the boiler in square meters.

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